

INTREXON CORPORATION
20374 Seneca Meadows Parkway
Germantown, Maryland 20876
Telephone: (301) 556-9900

August 5, 2013

Via Facsimile and EDGAR

United States Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549
Attention: Jeffrey Riedler

Re: Intrexon Corporation
Registration Statement on Form S-1 (No. 333-189853)

Ladies and Gentlemen:

Pursuant to Rule 461 of the Securities Act of 1933, as amended (the "Act"), Intrexon Corporation (the "Company") hereby requests that the Securities and Exchange Commission (the "Commission") take appropriate action to cause the above-referenced Registration Statement to become effective on August 7, 2013 at 4:00 p.m. Eastern Time, or as soon as practicable thereafter, unless we or our outside counsel, Troutman Sanders LLP, request by telephone that such Registration Statement be declared effective at some other time. In making this acceleration request, the Company acknowledges that it is aware of its responsibilities under the Act.

Once the Registration Statement is effective, please orally confirm the event with our counsel Troutman Sanders LLP by calling David I. Meyers at (804) 697-1239. We also respectfully request that a copy of the written order from the Commission verifying the effective time and date of the Registration Statement be sent to our counsel Troutman Sanders LLP Attention: David I. Meyers by facsimile to (804) 698-5176.

In connection with the foregoing, the Company acknowledges that:

- should the Commission or the staff of the Commission (the "Staff"), acting pursuant to delegated authority, declare the Registration Statement effective, it does not foreclose the Commission from taking any action with respect to the Registration Statement;
- the action of the Commission or the Staff, acting pursuant to delegated authority, in declaring the Registration Statement effective, does not relieve the Company from its full responsibility for the adequacy and accuracy of the disclosure in the Registration Statement; and
- the Company may not assert Staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Very truly yours,

INTREXON CORPORATION

/s/ Randal J. Kirk

Randal J. Kirk
Chairman and Chief Executive Officer

Cc: Donald P. Lehr (Intrexon Corporation)
David I. Meyers (Troutman Sanders LLP)